NextGen IT
Project Manager Curriculum Path

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SAIC®

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PROJECT MANAGER CURRICULUM PATH INTRODUCTION

SAIC is pleased to provide this Project Manager CP document for review by OIR and the selected SMEs in order to facilitate further discussion about the training and labs that would support the NextGen IT objective of improved IT deliverables.
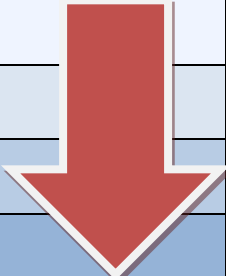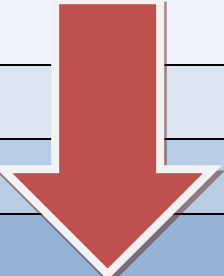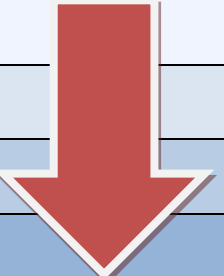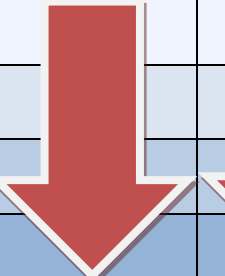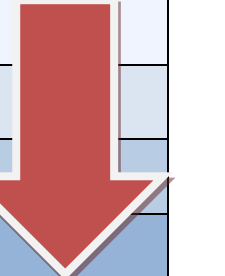
This Curriculum Path for the Project Manager (PM) job classification represents the knowledge, skills, and abilities (KSAs) and tasks associated with the new State of TN job classifications. The CP also reflects input, suggestions, and feedback from State IT Subject Matter Experts (SMEs), and in consideration of IT Industry Best Practices. The following is a summary of the themes that came out of the SME workshop.

- Many people who are serving as Project Managers today did not start out to be PMs but they moved into these roles as the benefits of PM processes and leadership became evident in their State Agency, Department, or Office.
- Some IT professionals serve in PM roles and /or project leadership roles with limited to no formal training about how to use PM processes and core skills to bring value to the customer and the State. They manage based on their technical expertise or their business focus. These people do sometimes end up with successful projects but according to those SAIC interviewed, there are many struggles and issues that could be reduced or eliminated if personnel had knowledge of how to use PM processes. And, unfortunately there have been some projects that have experienced significant failures that again may have been avoided with strong implementation of PM processes.
- In the past few years, there has been a stronger emphasis on PMO functions within some State agencies where they have established PMOs. The State also introduced BSD to provide PM and BA support for the State's larger, more complex projects. This awareness of the benefit of PM processes and personnel who are trained to manage projects is not State-wide and varies in maturity of processed employed.
- As the State works toward better deliverables it will be important to give personnel the opportunity to train and develop KSAs that will make them more well-rounded IT professionals even as they develop increased competency as Project Managers. Training must improve IT personnel 'soft' inter-disciplinary skills and abilities such as communication, critical thinking, decision making, and active listening. Without these skills and abilities PMs will not be effective.
- A strong message from the SMEs is that communication, interpersonal, and team building skills enhancement would improve project outcomes. Establishing a culture of informed and engaged IT project teams will positively impact the outcome of deliverables. Training should promote team communication, collaboration, respect for roles, and awareness of the inter-connectivity of the project tasks. Communication is a continuous theme along with a recommendation that there be an expectation of increased human face-to-face interaction between PMs and the team members whenever possible.
- Ultimately, Software Project Managers will be able to use the Curriculum Path to:
    - Remediate and/or reinforce foundational KSAs required for Project Managers by completing training required in the beginner levels.
    - Develop and demonstrate the knowledge, skills, and abilities required to perform the tasks relevant to their job classification and level.
    - Develop KSAs to prepare to move into a more advanced Project Manager level.
    - Develop the 'cross-training' KSAs that will improve team work, communication, understanding, and ultimately improve deliverables.

This Curriculum Path is presented in a chart format. Job Classification levels are displayed in rows along the left-hand side of the chart (Associate, Intermediate, Senior, and Director). All of the training and learning activities that make up the curriculum path are organized into one of five Areas of Competency needed to develop well-rounded IT Professionals (Technical, Organizational / Process, Communications, Cognitive Development, and Administration / Management / Leadership). These Areas of Competency are displayed across the top of the chart. The related courses and learning activities are displayed in these columns according to their relevant job classification level and in the recommended order of completion.

Curriculum Path Format

	AREAS OF COMPENTENCY				
	Technical Training	Organizational / Process Training	Communication Training	Practical Reasoning Training	Administration / Management / Leadership Training
Associate Level					
Intermediate Level					
Senior Level					
Director Level					

The five Areas of Competency were selected based upon the types of knowledge, skills, and abilities identified in the KSAs for each new State of Tennessee Job Classification and are recommended to emphasize the importance of developing competency in inter-disciplinary knowledge, skills, and abilities in tandem with technical competence.

Technical: The technical courses provide the Project Manager with the knowledge, skills and abilities to interact with technical team members. Project Managers need to be cross-trained enough that they can communicate effectively translate technical information into accurate information for the customer sponsor and other non-technical stakeholders, and recognize the types of issues that can impact project scope, cost, schedule, resources, risk, and overall success.

Organizational / Process: Organizational and Process oriented courses are the core curriculum for the PM. These courses address all of the PM processes in depth. PMs are also cross-trained in Software Development processes and lifecycles; State of TN Infrastructure Operations; how to interact with OIR when a project requires services and support from the Infrastructure team; State of TN IT Governance; Procurement; Time Management; and Project Planning and Approval process and procedures.

Communication: Communication is another core area of training for PMs. These courses will include written and verbal technical communication, active listening, verifying understanding, customer service, and team building. Emphasis is given to developing interpersonal skills that are to be used to create strong collaborative working relationships with all project stakeholders.

Practical Reasoning: Courses in this area of competency will increase and improve upon the PM's ability to actively and skillfully conceptualize, apply, analyze, synthesize, and/or evaluate information gathered, ultimately supporting the development of business acumen necessary for a Project Director.

Administration/Management/Leadership: Leadership courses will cover the knowledge, skills, and abilities that are necessary to manage work, motivate and support individuals and teams to complete project tasks and objectives. For the PM path these courses will advance into content that is relevant to executive level leadership. An Assessment of Management Style will be completed during these courses.

Comprehensive Competency Development and Verification

A significant objective for the NextGen IT transformation is to develop well-rounded IT professionals who can work together to deliver high quality, effective, timely technology products and services to State Government and the people of Tennessee. Instructors will use teaching methods that will maximize the State IT Professional's opportunity to practice, apply, and perform during the class so that the student leaves the classroom and returns to their work place fully prepared to use the new learning in their work. The desired training delivery approach will include instruction and demonstration activities, guided exercises and practice activities; and competency verification activities.

The importance of dynamic, interactive competency verification cannot be overstated. Every course regardless of the type (instructor-led, computer-based, facilitated workshops,) will provide students with at least one competency verification activity or 'lab.' These labs will require the participants to apply the knowledge, skills, and abilities gained to execute a course related task. A written exam may be used as a competency verification activity; however, the desire is for students to use and apply new knowledge, skills, and abilities prior to leaving the class. This may be accomplished through independent assignments on the computer such as writing code or through activities that requires the students to work together to identify the best technical solution, solve a problem, or produce a product.

These competency verification activities are a core strategy of the new training curriculum, aimed at instituting continuous opportunities to verify, build upon, and improve competency. The expectation is for the student to integrate learning from all five Areas of Competency as they progress through the curriculum path. Competency verification can and should include a requirement for students to use KSAs, obtained in previous classes. Students will understand this expectation and Instructors will be responsible to ensure that they are working to support this objective through their classroom, lab, and workshop activities.

Final Competency Verification Lab
In order to complete verification of competency for each job classification level, and /or to move into another job classification it is recommended that IT professionals pass a final competency lab that will be facilitated by working professionals with appropriate skills and subject matter knowledge. This competency lab will require the participants to use knowledge, skills, and abilities from all five Areas of Competence.

PROJECT MANAGER CURRICULUM PATH DRAFT

The Curriculum Path Charts will provide an overview of the courses and learning activities for each level. To view the Course Outline click the course. Please note that the descriptions are not fully developed in this Draft presentation but are scheduled to be developed in the final deliverable.

Associate Project Manager

	Technical Training	Organizational Process Training	Communication Training	Practical Reasoning Training	Administration / Management / Leadership Training
Associate Project Manager	Basic Technical Training for Non-Technical Managers	State of TN IT Professional Orientation	Resources for Improving Communication Knowledge and Skill	Resources to Improve Practical Reasoning	Project Management Basics
	Using Excel, Word, PowerPoint, Visio, SharePoint, and Outlook as PM Tools.	TN IT Governance and TBSM	Customer Service Principles and Processes		Team Building
	MS Project and MS Project Server	Personal Organization and Time Management			Learning to Teach and Mentor Others
	Associate Project Manager Learning Lab				
	Associate Project Manager Competency Lab				

Intermediate Project Manager

	Technical Training	Organizational Process Training	Communication Training	Practical Reasoning Training	Administration / Management / Leadership Training
Intermediate Project Manager	Designing to Maximize Customer Satisfaction	Fundamentals of TN Standard Software Development Processes	Becoming a Strong, Confidant, Service-Oriented Communicator	Developing Business Acumen - Intermediate	
	System Quality and Performance Verification and Improvement	Performing Cultural Assessment	Improving understanding between technical and non-technical project stakeholders		
	Intermediate Project Manager Competency Lab				

Senior Project Manager

	Technical Training	Organizational Process Training	Communication Training	Practical Reasoning Training	Administration / Management / Leadership Training
Senior Project Manager		Advanced Organization – Keeping it Together when the Projects get more Complex	Conflict Management and Negotiation	Judgment, Decision, and Analysis	Advanced Human Resources and Labor Relations Issues
		Financial Planning and Management within State of TN		Collaborative Troubleshooting / Problem Solving / Decision Making	Law and Government
				Developing Business Acumen - Senior	Public Safety and Privacy
	Senior Project Manager Competency Lab				

Project Director

	Technical Training	Organizational Process Training	Communication Training	Practical Reasoning Training	Administration / Management / Leadership Training
Project Director		Advanced Knowledge of State Governance and Multi-Agency Culture, Environment, Practice, Policies, and Procedures	Advanced Team Dynamics	Developing Business Acumen - Director	Collaboration, Motivation, and Communication with Large Project Teams
					Portfolio Management
	Project Director Competency Lab				

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TECHNICAL COURSE DESCRIPTIONS

The technical courses are designed to cross-train Project Manager who do not already have a technical background in software development, maintenance, operations, and/or IT infrastructure. It is important for PMs to know some basic technical concepts, to understand the lifecycles and methodologies used by the technical teams, and to recognize the benefits and limitations of IT solutions for their customers. The technical track also provides training for PMs in Microsoft Office products that are used by PMs to perform basis activities such as writing project documentation, scheduling meetings, preparing presentations, sharing documents with the project team, working with spreadsheets, work breakdown schedules, network resources and etc.

Basic Technical Training for Non-Technical Managers

This two part training is designed to educate managers about IT products and services. There is an enormous world behind the scenes of what a user sees on their computer screen. This course is designed to give non-technical managers help to understand that world. This could be taught in a combination of web-based training and workshops where Associate PMs are given an opportunity to interact with other PMs who have technical training and experience.

One idea would be to make teaching this class an assignment for technically trained PMs who are working on their training development and facilitation skills. With the oversight of a training instructor, including experienced technicians who are learning to communicate with non-technical managers and customers in the workshops would also be a great way to make this course a practice in communication skills as well as technical knowledge.

What Managers Need to Understand About Application Development and Enhancement Projects:

This course will provide a basic overview of the software development lifecycles; the different parts of software applications including the user interface and the other parts that users don't see; basic information about the limitations and capabilities of software, the creative and iterative nature of software development, the difference between the demo or prototype and the finished application in terms of effort and schedule to complete, and the importance of communicating with the technical team before allowing a customer to expect something that can't be done, or shouldn't be done (for example, something that would compromise security).

Duration: 2 Day

Learning Objectives

Upon completion of this course, the attendees will:

- Understand the stages of the Software Development Lifecycle
- Recognize system capabilities and limitations
- Know the differences between client, web, client/server and n-tier applications
- Be able to estimate time and effort needed to produce lifecycle products
- Be able to facilitate team member communication with others and with stakeholders
- Understand risk as a factor in software development

Course Outline

- Overview of the Software Development Lifecycle
- Software Applications
  - o Client Side
  - o Server Side
  - o Databases
  - o Source Code

- System Capabilities and Limitations
- Effort to Produce Products of the Lifecycle
  - Pseudocode
  - Diagrams/Documentation
  - Prototype
  - Demo Version
  - Iterative Versions
  - Finished Application
- Team Communication
  - Between Team Members
  - With Project Leadership
  - With Stakeholders
- Managing Risk
  - Project Success Factors
  - Project Risk Factors
  - Managing for Risk
  - Problem Identification and Risk Mitigation

What Managers Need to Understand about Infrastructure and Network Projects:

This course will provide a basic overview of how the infrastructure is organized and operated. It will allow the non-technical PM to become familiar with basic information about things such as infrastructure security, privacy, accessibility, availability and the importance of communicating with the technical team before allowing a customer to expect something that can't be done, or shouldn't be done.

Duration: ½ Day

Learning Objectives

Upon completion of this course, the attendees will:

- Understand how the State of TN computer system infrastructure is organized and operated
- Be familiar with the State of TN computer system infrastructure's security, privacy, and accessibility standards and practices

Course Outline

- Overview of the Infrastructure
- Security
- Privacy
- Accessibility

Using Excel, Word, PowerPoint, Visio, SharePoint, and Outlook as PM Tools

This is a resource of just-in-time, computer-based training PM personnel can access at any time in order to improve their knowledge and skills with MS Office tools. In addition to the free resources available from Microsoft, a module will be created to provide tips for managers that highlight a few features from each tool that are valuable for the kinds of work performed by PMs. For example, it might not be necessary for a PM to know how to set up a SharePoint site but it would be useful to know how to upload, check-out, edit, and check-in documents that the team is sharing.

Duration: varied

Learning Objectives

Upon course completion, attendees will be able to:

- Complete tasks necessary for project management using the appropriate Microsoft tools.

Course Outline

- Defined by Microsoft as presented at: http://office.microsoft.com/en-us/training-FX101782702.aspx

MS Project and MS Project Server

Participants will learn the how to set-up and work with Project details in MS Project, including how to set up a Work Breakdown Structure (WBS), plan for resources, and track completion. Modules are also available for MS Project Server that can be accessed as needed.

Duration: varied

Learning Objectives

Upon course completion, attendees will be able to:

- Complete tasks necessary for project management using Microsoft Project.

Course Outline

- Defined by Microsoft as presented at: http://office.microsoft.com/en-us/training-FX101782702.aspx
- Defined by Microsoft as presented at: http://technet.microsoft.com/en-us/library/cc303399(v=office.12).aspx
- Other more advanced online training courses would be beneficial if not cost prohibitive

Designing to Maximize Customer Satisfaction

This course is one that has been suggested for Developers and it would be a great course for PMs as well. The PM would benefit from an increased awareness of how design decisions are critical to the success of the deliverable and the impact these decisions will have on the overall scope and schedule of a project. This course would also further the PM's overall technical knowledge and awareness. The course will combine technical tasks, and communication, listening, techniques for engaging the customer in the design process, and managing customer expectations. PMs can interact with the technical personnel in the class exercises thus facilitating more opportunities for fostering communication and understanding between technical and non-technical project team members. For the PM, the pre-requisite for this course is the Orientation to Standard TN Software Development course. Participation in the Fundamentals of Software Development Processes Modules would also help the PM in this course.

Duration: 2 or 3 Days

Learning Objectives

Upon completion of this course, attendees will be able to:

- Identify the stakeholder/customer
- Manage expectations
- Create a prototype for a given application
- Understand the importance of user acceptance testing
- Create a user interface that meets ADA minimum standards
- Create a user interface that operates properly regardless of platform
- Create a user interface that meets user requirements
- Create a user interface that has proper navigational controls
- Create a user interface for the desktop environment
- Create a user interface for the internet
- Identify good –vs- poor user interface design

- Create a style sheet
- Perform a post-implementation evaluation

Course Outline

- Who is the Customer?
    - Stakeholders/Customers
- Managing Expectations
    - Communication with the Stakeholder
    - Developing Prototypes for Stakeholder Approval
        - Why prototype?
        - Types of prototypes
        - How to create a prototype
- User Acceptance Testing
    - What is UAT?
    - When should it be done?
    - What should be done with the results?
- Introducing human-computer interaction
    - What is a user interface?
    - Attributes of a good interface
    - Leveraging our cognitive skills
    - Leveraging our perceptual skills
    - ADA Standards
    - Non-visual Factors
- Introducing user-centered design
    - User-centered design
    - Design iteration
    - Analysis phase
    - Design phase
    - Verification phase
- User interface design principles
    - Attributes of a good interface
    - Map to the user's mental model
    - Be consistent
    - Provide control
    - Provide feedback
    - Recover gracefully
    - Provide flexibility
- Navigation
    - How to create a task flow diagram
    - Five navigational structures
        - Sequential navigation
        - Hierarchical navigation
        - Star navigation
        - Grid navigation
        - Network navigation
        - Hybrid navigation
- Application interfaces
    - Primary window
    - Secondary windows
    - Menus
    - Controls
    - Toolbars
    - Status bar

- o   Input: General
- o   Input: Mouse Input
- o   Input: Keyboard
- o   Interaction: Selection operations
- o   Interaction: Editing operations
- o   Interaction: Transfer operations
- o   Windows user assistance and help
- o   Writing for desktop applications
- o   Platform specifics
- Web interfaces
  - o   Client-server explained
  - o   Client-server performance issues
  - o   Introduction to Style Sheets
  - o   Web visual design
  - o   Links
  - o   Platform or browser
- Post-Implementation Evaluation
  - o   What information should be gathered?
  - o   Implementing Changes
  - o   Documenting for Future Projects

Lab Exercises: Attendees will be presented with examples of both good and poor GUIs without distinction. They will determine what is appropriate and effective and what is poor design and ineffective. Given a simple project, attendees will create a prototype of the interface and use a style sheet to modify its appearance.

System Quality and Performance Verification and Improvement

This course is an opportunity to advance understanding of the technical activities that take place to ensure the delivered system meets the customer's needs. The course will explore identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.

Duration: One Day

Learning Objectives

Upon completion of this course, the attendees will be able to:

- Specifically schedule Performance Variance and Index and Cost Performance Variance and Index
- Identify a set of leading indicators that provide insight into technical performance at major decision points for managing programs quantitatively across their life cycle.
- Build upon objective measures in common practice in industry, government, and accepted standards.
- Select objective measures based on essential attributes (e.g., relevance, completeness, timeliness, simplicity, cost effectiveness, repeatability, and accuracy).

Course Outline
- Leading Indicators and Objective Measures
  - o   Requirements
    - § Number of requirements changes within a time period: total, new, modified, deleted
    - § Stakeholder's needs met
  - o   Interfaces
    - § Status of external interface definitions (plan vs. actual) within a time period: total number of interfaces, interfaces completed, interfaces not yet fully defined, interfaces to be resolved

- o Architecture
  - Evaluates the architecture from the perspectives of quality, flexibility, robustness, stability and adequacy of design rules.
- o Staffing and Skills
  - Number of Systems Engineering Hours - Planned and Actual
  - Total Years of Systems Engineering Experience – Planned and Actual (for the system engineers contributing to systems engineering hours)
- o Technical Performance
  - Planned profile (if appropriate): values targeted to be achieved over time to make progress toward achieving the Technical Performance Measures (TPM) Goal
  - TPM Goal: the TPM value targeted to assure achievement of the threshold
  - Threshold: the TPM value which must be achieved
  - Achieved: values determined by modeling, estimating or actual measurement at particular points in time
- o Technology Maturity
  - Technology Readiness Level (TRL) for each critical technology element
- o Affordability
  - Understand the balance between performance, cost, and schedule as well as the associated confidence or risk
- o Risk Management
  - Number of Identified Risks
  - Cost Impact of each identified risk occurring
  - Cost impact of planned actions per risk
  - Cost impact of actual actions per risk
- o Manufacturability
  - Manufacturing Readiness Levels for key system elements

Refer to document:
http://www.ndia.org/Divisions/Divisions/SystemsEngineering/Documents/Studies/NDIA%20System%20Develpopment%20Performance%20Measurement%20Report.pdf

ORGANIZATIONAL / PROCESS TRAINING

Organizational and Process Oriented courses are interdisciplinary courses that will be provided for all IT professionals in all State Agencies. The goal is to develop a common set of expectations and a framework for working together on IT projects regardless of which department and what project.

State of TN IT Professional Orientation Modules

These three (3) State of TN IT Professional Orientation Modules are provided in the Associate level training for all IT professionals and they would also be terrific courses to assist with training business professionals working within State Agencies, and Executives within the State who participate in planning for IT projects. Together these modules will be used to support the cultural shift within the State of TN IT environment to the desired culture of the NextGen IT Transformation. All three modules would become computer-based curriculum once the transformation is well underway. They will be taught in a classroom setting until there is evidence that the transformation has taken hold. The classroom setting will allow for the type of Q&A dialog that could be useful in supporting this transformation.

The specific course content will need to be closely coordinated with the State NextGen IT Transformation initiative. This is not an off-the-shelf series of modules. The learning objectives and course outlines below serve as a structure for the courses. Instructors must work closely with the State to communicate the specific messages on the initiative.

Duration: Each Module will be approximately 1 hour

Audience: All IT personnel, Agency leadership, Executives participating in IT project planning, may be relevant for vendors working in support of IT projects, products, or services.

Module #1: Orientation to TN IT Governance and Customer Service Mission

Learning Objectives

Upon completion of this course, attendees will be able to:

- Describe how IT operations and service delivery is organized within the State of TN
- Describe the types of products and services State Agencies can receive from State IT including OIR and BSD
- Describe the importance and practice of the customer-service mission
- Describe their personal responsibilities for working in the State of TN NextGen IT environment.

Course Outline

- Overview of the State of TN IT Governance
    - o Offices, Departments providing IT services and products
    - o Relationship between Agencies and State IT Departments and Offices
    - o Role of Vendors in supporting IT products and services
    - o Role of IT in working with Vendors
    - o Introduction to OIR and BSD, and the types of services and products Agencies are able to receive from these State IT offices
- The Customer-Service Mission - serving the people of the great State of TN
    - o Who are State IT customers?
    - o The importance of personal responsibility, integrity, and discipline in all IT professionals.
- The NextGen IT Environment
    - o Expectations for team work, quality, collaboration, respect for others, and professional behavior
    - o Day-to-day, work-specific impact of the customer-service mission on project teams, and IT professionals.
    - o IT professional development plans including the new learning program

Module #2: Orientation to TN Business Solutions Methodology (TBSM)

The purpose of this module is to establish a common understanding of the life of a project within the State of TN, and to increase understanding of how the participants in the class fit into the project team, no matter if they are part of the technical team, a customer, an end user, a business manager, or a vendor.

Learning Objectives

Upon completion of this course, attendees will be able to:

- Describe at a high level how projects are planned, designed, executed, and operationalized within the State.
- Describe the primary types of projects the State of TN is likely to plan and execute
- Recognize where the work they typically do fits into the project life.

Course Outline
- High level introduction to the TBSM
- Why we have the TBSM
- How to assess support from BSD to further understand the methodology and use templates
- Different Types of State projects and how to approach these projects using the TBSM

Module #3: Orientation to TN Standard Software Development Process

Software Development Processes provide a framework for all software development projects regardless of size, complexity, and risk. The focus of this course is to establish an expectation for all software development projects to utilize a basic set of processes to ensure quality deliverables.

Learning Objectives

Upon completion of this course, attendees will be able to:

- Describe the expectation that all projects use standard processes
- Describe in general terms how the processes are applicable no matter what SD methodology is implemented on a project.
- Identify the SD processes and give a high level description of the purpose of the process.

Course Outline
- Fundamentals of State IT Standard Software Development Processes
- Purpose behind State establishing minimal processes that are required for all SD projects
  - Benefits of using the State of TN Standard Software Development Processes
  - Examples of the kinds of trouble projects can experience when standard process is not utilized to structure the work.
- Difference between a Project lifecycle, Software Development Lifecycle, and the State's Standard Software Development Processes, and how they sync-up, (example where the SD process would fit in a Project lifecycle).
- High level description of each process and where it is used in the Software Development Lifecycle
- How to get additional training when needed

TN IT Governance and TBSM

This course is a follow-up to the information presented during the State of TN IT Orientation. It will provide a detailed overview of the full life of a project and will provide enough detail that all persons working as PMs, Business Managers and BAs would be able to recognize the project phases and how each is managed within Tennessee.

Duration: One or Two Days

Lesson Objectives

Upon completion of this course, the attendees will be able to:
- Understand the Tennessee Business Solutions Methodology
- Produce documentation required by the TBSM
- Manage a small, low risk project with supervision
- Understand the basics of working on a complex project
- Work effectively with vendors

Course Outline
- Overview of Tennessee Business Solutions Methodology (TBSM)
  - Stages
  - Processes
  - Documents
    - Project Charter
    - Project Management Plan
    - Scope Management Plan
    - Requirements Management Plan
    - Communication Management Plan
- Pre-Engagement
  - Initial Project Assessment
  - Facilitate Solution Vision Sessions
  - Assist Agency in Documenting Business Need & Preliminary Business Case
- Project Initiation
  - Identify Stakeholders
  - Develop/Refine Project Charter
- Project Planning
  - Develop Project Management Plan
  - Initiate Build Book Process
  - Collect Requirements
  - Maintain Requirement For Re-use
  - Validate, Define Solution and Scope
  - Create Work Breakdown Structure
  - Define Activities
  - Estimate Activity Resources and Durations
  - Develop Schedule
  - Estimate Costs and Determine Budget
  - Plan Quality
  - Develop HR Plan
  - Plan Communications
  - Plan Risk Management
  - Identify Risks, Perform Analysis and Response
  - Plan Procurements
  - Plan Implementation
- Project Execution
  - Direct and Manage Project Execution
  - Perform Quality Assurance
  - Acquire, Develop & Manage Project Team
  - Distribute Information
  - Manage Stakeholder Expectations
  - Conduct Procurements

- Project Monitoring & Control
  - Monitor and Control Project Work
  - Perform Integrated Change Control
  - Verify and Control Scope
  - Control Schedule
  - Control Costs
  - Perform Quality Control
  - Report Performance
  - Monitor and Control Risks
  - Administer Procurements
- Project Closing
  - Close Project and Procurements
  - Document Lessons Learned
- Working with Complex Projects
  - How does the smaller portion fit?
  - Where are the full project documents?
  - Recognizing when the portion and the whole are not in sync
    - Scope
    - Schedule
- Working with Vendors
  - Communicating
  - Coordinating

Personal Organization and Time Management

Personal Organization and Time Management are critical for PM success. The course will provide techniques, tips, and opportunities to practice using these skills in tasks and scenarios independently and with other participants.

Duration: One Day

Learning Objectives

Upon completion of this course, attendees will be able to:

- Set S.M.A.R.T. goals
- Prioritize goals effectively
- Understand the needs of different personality styles and how to work with them
- Handle high pressure, crisis situations
- Prioritize time and tasks effectively
- Achieve better results through effective planning
- Overcome procrastination
- Estimate time and activities required for reaching goals
- Handle paperwork effectively
- Manage resources more efficiently
- Organize workspace
- Use time management tools more effectively
- Become effective at delegating for maximum productivity

Course Outline

- Working with Goals
  - S.M.A.R.T. (Specific, Measurable, Attainable, Relevant, Time-Bound) Goals
  - Prioritizing Goals
- Working with Others
  - Personality Types A, B, C, and D
  - Recognizing and Working With Different Personality Types

- o   Team Dynamics that Affect Timely Deliverables
- o   Handling Crisis Situations and Project Delays
- Prioritizing Time & Tasks
  - o   The 80/20 Rule
  - o   The Urgent/Important Matrix
  - o   Assertiveness
- Planning Wisely
  - o   Creating a Productivity Journal
  - o   Glass Jar: Rocks, Pebbles, Sand and Water
  - o   Estimating Time and Activities
  - o   Processing Required Paperwork
  - o   Managing Available Resources
- Organizing Workspace
  - o   De-clutter
  - o   Managing Workflow
  - o   Dealing with E-mail
  - o   Using Calendars
- Delegating Made Easy
  - o   When to Delegate
  - o   How to Delegate
  - o   Managing Responsibility when Delegated

Lab Exercise: Participants will be given the opportunity to practice using techniques presented for organizing their work to increase efficiency and gain awareness through timed activities of how long tasks take for them individually and for the group.

Fundamentals of TN Standard Software Development Processes

This series of modules is a part of the curriculum path for many IT job classifications that participate in these processes. They will dive deeper into software development, maintenance and operations processes. These modules will be 1-2 hours in length and can be web-based. The content should be relevant regardless of the software development lifecycle meaning that there are tools, techniques, practices that are relevant and tailor-able regardless if the development model is waterfall or agile or rapid prototyping. The difference is these approaches can be explained in the modules and even the benefits of using the different approaches and tools depending on the type of project.

These modules will not give a person mastery of the processes and tools. They are designed to increase understanding and ability communicate, plan, and follow through as a project team.

Modules:
- Analysis
- Defining Requirements
- Design
  - o   Diagrams
- Estimation
- Establishing and Migrating between Development, QA, and Production Environments
- Configuration Management
- Change Management.
- Testing and Verification
- Deploying to Production
- Production Operations
- Enhancements and Maintenance

It will be important to point participants toward tools and resources that can be used just-in-time because Junior Project Managers will not engage in these activities on a daily basis and they will lose what they learn unless they have access to resources when needed.

Performing Cultural Assessment

It is critical for an Intermediate PM to have expert knowledge of the State Agency the project is for. This includes information about the primary end users, the Agency leadership, the risks, challenges, objectives, and mission of the business. Without this insight the PM will be blind to some types of issues that could become problematic to scope and schedule for a project.

Duration: One Day

Lesson Objectives

Upon completion of this course, the attendees will be able to:
- Identify the organizational culture for a given team or agency
- Adapt to the culture to achieve the maximum effectiveness and productivity
- Effect change in the culture when needed

Course Outline
- Cultural Assessment
  - What is Organizational Culture?
    - Values
    - Visions
    - Norms
    - Working Language
    - Systems
    - Symbols
    - Beliefs
    - Habits
    - Collective Behaviors
    - Collective Assumptions
  - Hofstede Theory
    - Power Distance
    - Uncertainty Avoidance
    - Individualism vs. Collectivism
    - Long vs. Short-Term Orientation
  - O'Reilly, Chatman, and Caldwell Model
    - Innovation
    - Stability
    - Respect for People
    - Outcome Orientation
    - Attention to Detail
    - Team Orientation
    - Aggressiveness
  - Daniel Denison's Model
    - Mission
    - Adaptability
    - Involvement
    - Consistency
  - Factors and Elements
    - The Paradigm

- Control Systems
- Organizational Structures
- Power Structures
- Symbols
- Rituals and Routines
- Stories and Myths
- Healthy Organizational Cultures
  - Acceptance and appreciation for diversity
  - Regard for and fair treatment of each employee as well as respect for each employee's contribution to the company
  - Employee pride and enthusiasm for the organization and the work performed
  - Equal opportunity for each employee to realize their full potential within the company
  - Strong communication with all employees regarding policies and company issues
  - Strong company leaders with a strong sense of direction and purpose
  - Ability to compete in industry innovation and customer service, as well as price
  - Lower than average turnover rates (perpetuated by a healthy culture)
  - Investment in learning, training, and employee knowledge
- Constructive Cultures
  - Achievement
  - Self-Actualizing
  - Humanistic-Encouraging
  - Affiliative
- Passive Defensive Cultures
  - Approval
  - Conventional
  - Dependent
  - Avoidance
- Aggressive Defensive Cultures
  - Oppositional
  - Power
  - Competitive
  - Perfectionistic
- How to Adapt to the Organizational Culture
- How to Influence Change in the Organizational Culture when Appropriate

Advanced Organization

Senior PMs are beginning to take on responsibilities for multiple aspects of projects and may be managing several projects at one time, or may be coordinating with other PMs on the same or multiple projects. This course will provide some advanced techniques and tips but more importantly, this will be an opportunity to assess one's own organization style and capabilities and work to improve less effective skills by using the ideas provided in the course. There will be opportunities to interact with others on project tasks, identifying the best approach to the tasks.

Duration: One Day

Lesson Objectives

Upon completion of this course, the attendees will be able to:
- Effectively manage multiple projects
- Effectively coordinate with other project managers
- Effectively utilize time management techniques to improve efficiency
- Identify personal organizational/management style

- Improve organizational skills
- Set and obtain performance targets

Course Outline
- Time Management Tips
- Managing Multiple Projects
- Coordinating with other Project Managers
- Organizational/Management Style
  - o Autocratic
  - o Paternalistic
  - o Democratic
  - o Chaotic
  - o Laissez-Faire
- Setting Performance Targets

Financial Planning and Management within State of TN

This course will cover the financial aspect of project managements. Topics include: project proposal planning, cost/benefit analysis, tracking project budget, burn rate, actual vs. planned, reporting, and the financial portion of the Tennessee Business Solutions Methodology.

Duration: One Day

Lesson Objectives

Upon completion of this course, the attendees will be able to:
- Complete the financial portion of a Project Charter
- Conduct and report a cost/benefit analysis
- Track a project budget
- Determine burn rate and account for actual vs. planned resources
- Complete the State of TN required financial reporting
- Create a Project Cost Management Plan in accordance with TBSM standards that is a part of the Project Management Plan

Course Outline
- Project Proposal Planning
  - o Financial Information for the Project Charter
- Cost/Benefit Analysis
- Project Budget
  - o Burn Rate
  - o Actual vs. Planned
- Required Financial Reporting
  - o What Reporting is required?
  - o To whom do you report?
  - o What Formats/Templates are to be used?
- Tennessee Business Solutions Methodology Financials
  - o Project Cost Management Plan

Advanced Knowledge of State Governance and Multi-Agency Culture, Environment, Practice, Policies, and Procedures

It is critical for a Project Director to have expert knowledge of the State Agency the project supports. This includes information about the primary end users, the Agency leadership, the risks, challenges, objectives,

and mission of the business. Without this insight, the PM will be blind to some types of issues that could become problematic. This course is a more in-depth look at state governance and multi-agency protocols.

Duration: One Day

Lesson Objectives

Upon completion of this course, the attendees will be able to:
- Effectively communicate and perform project management tasks across multiple state agencies

Course Outline

- Advanced State Governance
    - Practices and Procedures unique to State Government
- Advanced Cultural Assessment of Agency Environment
    - Identifying Key Components of Agency Culture that will Impact the Project either Positively or Negatively
    - Cross-Agency Communication
    - Cross-Agency Protocols
- Recognizing Risks and Challenges
    - Mitigating Risks
    - Overcoming Challenges
- Policies Dictating Professional Conduct and Procedures between State Agencies

COMMUNICATION COURSE DESCRIPTIONS

The area of communication is of vital importance to the project manager. These courses may be repeated on an as needed basis to improve the IT professional's communication skills.

Resources for Improving Communication Knowledge and Skill

This set of computer-based training modules will give State IT personnel access to training that will allow them to advance their core communication skills and abilities. The modules described below provide an example of the kinds of modules the State would like to have available for their PM personnel. The actual offering from a training vendor may be more extensive. *These courses and others already described in other CPs will be combined into one set of modules that will be available to all IT personnel.*

Duration: Each module in a series will be a stand along module and should be no more than 1 hour.

Audience: These modules will be applicable to any IT personnel including those who are technically focused and those who are business focused. These modules will be available to anyone as electives that they can select on their own or as directed by their managers as part of their Individual Development Plan.

Active Listening and Reading with Increased Comprehension

Learning Objectives

Upon completion of one or more modules, participants will be able to:

- Identify ways to verify ideas and thoughts in verbal and written communication
- Identify ways to improve their own reading and listening comprehension
- Identify the limitations of written communication and recognize the kinds of communications that should be verified on a project.

Course Outline

- How we assign meaning to written and verbal communications
- The importance of the context of the information communicated
- Validating understanding of written and verbal communications
- Recognize the limitations of written communication
- Recognize the importance of non-verbal communication and the impact on comprehension
- How to increase understanding through techniques such as repeating back, asking questions, asking for an example of what is being described…never assuming and always checking for accurate comprehension

Content will be IT product and service related and will include communications that might be received from a customer, a technical team member, another PM, or a vendor.

Writing Project Management / BA Documentation

Learning Objectives

Upon completion of one or more modules, participants will be able to identify ways to improve their documentation accuracy, relevance, and speed

Course Outline

- How to organize thoughts
- Identify business and technical audience

- Use professional grammar, fonts, and standard terminology
- Techniques and tips to improve writing
    - Accuracy
    - Relevance
    - Speed.
- Review of good documentation and poor documentation

Conducting a Successful Meeting

Instruction and practice opportunities will be provided to help the Associate PM learn how to run a successful meeting. Topics will include how to set up the agenda, how to manage the flow of discussion, what to talk about before the meeting with individuals, and how to table discussions for after the meeting, how to start and end on time, how to listen to the information provided and when to make decisions in the meeting, and what to do to follow-up from a meeting. At this level the PM could take a computer-based training recognizing that there will be opportunities in future classes to practice and improve this skill.

Learning Objectives

Upon completion of this course, the attendees will be able to:
- Successfully plan, prepare and conduct a productive meeting and follow-up post meeting

Course Outline
- Setting up an Agenda
- Pre-Meeting Communication
- Managing Flow of Discussion
- Tabling Discussions
- Time Management
- Decision Making
- Follow-up

Communicating Effectively with People in Authority

Communicating with the supervisor, upper management, managers from other Agencies, or even Vendor managers can be intimidating but there are techniques and a customer-service mind-set that can really help an Associate PM give and receive information from people in authority in an effective way. At this level the PM could take a computer-based training recognizing that there will be opportunities in future classes to practice and improve this skill.

Learning Objectives

Upon completion of this course, the attendees will be able to:
- Successfully communicate with those in authority

Course Outline
- Email/Written Communications
- Face-to-face Communications
- Providing Project Status
- Making Short Presentations

Customer Service Principles and Processes

In this course, participants will learn and use principles and processes for providing customer and personal services.

The format for the course should be interactive and dynamic with opportunities for role-play, perhaps watching scenarios of worker interactions and discussion of how the values transfer to the work environment and the work produced.

Duration: One Day

Learning Objectives

Upon completion of this course, the attendees will be able to:
- Conduct a customer needs assessment
- Recognize that customers do not always know how to identify or fully express what they want and learn techniques for identifying important themes, critical priorities, driving issues that are bringing them to request an IT solution.
- Recognize the difference between the customer's description of functionality, inputs and outputs, and the final product/services specifications, design, code, and components. Non-technical customers do not know how to ask for technical elements needed to give them the functionality and user interface and security, and privacy, and accessibility and other things that they want. Learn techniques for guiding the customer to provide information that a design team will need to know.
- Utilize techniques for opening communication and managing expectations right from the first conversation.
- Understand what quality standards are and how to meet them
- Evaluate customer satisfaction
- Identify barriers to maintaining a customer service mindset as a PM
- Further establish critical values for the State IT environment such as pride in work, strong work ethic, effective solutions, cost effective results
- Actualize and internalize these values personally and professionally

Course Outline
- Customer Needs Assessment
  - What is a Customer Needs Assessment?
  - How can it be obtained?
- Interviewing the Customer
  - What do they want?
  - What do they need?
  - Determining Priorities
- Communication with Customer
  - Extracting Essential Information
  - Guiding the Customer to Manageable Solutions
- Quality Standards
  - What are Quality Standards?
  - How can Quality Standards be met?
- Evaluate Customer Satisfaction
  - What determines Customer Satisfaction?
  - How can it be measured?
- Maintaining Customer Service Mindset
  - What are the barriers to the mindset?
  - How can these barriers be overcome?
- Workplace Values
  - What are they?
  - How are they promoted?
  - How can they be changed?

Becoming a Strong, Confidant, Service-Oriented Communicator

This will be a competency building lab where the instructor establishes a safe learning environment where people are able to discuss challenging communication scenarios and identify solutions, practicing through role-play, observing the instructor demonstrating techniques for listening, de-escalating, re-focusing without ignoring what's being communicated, recognizing non-verbal communications, listening for what is not being said, sharing information with upper management, stressing and repeating the importance of listening over speaking. The focus will be on communicating with respect and a strong emphasis on collaboration, establishing trust, maintaining integrity, and developing relationships. This course would be a good opportunity for experienced management to come and interact at a point in the class, sharing lessons-learned on their own journey as managers and building relationships with Intermediate level PMs.

Duration: ½ Day

Learning Objectives

Upon completion of this course, the attendees will be able to:
- Listen with focus
- Recognize non-verbal communications
- Communicate with respect
- Collaborate effectively

This is a lab course with no stated course outline.

Improving Understanding between Technical and Non-Technical Project Stakeholders

This course is really a great opportunity to bring technical and non-technical team members into a workshop environment where with the help of the instructor the common problems and barriers to successful communication, and understanding are identified and solutions are presented and practiced. The best approach to this course would be to have mini-movies of examples of ineffective and effective interactions between technical and non-technical people that the class can discuss, followed by role-playing verbal exchanges – especially using role-swapping exercises. Techniques for interpretation, translating, verifying understanding, preparing for presentations / meetings, and facilitating discussions should be presented and practiced. The desired outcome is that all participants will have successful interchanges of information so that project communication will improve and the ultimate deliverables for customers will have a better chance to meet the mark.
Duration: ½ Day

Learning Objectives

Upon completion of this course, attendees will be able to:

- Communicate effectively with non-technical colleagues
- Illustrate methodologies or concepts when appropriate to aid in recipient understanding
- Present information effectively while actively listening to feedback
- Adjust communication as needed to further clarify ambiguous subjects/topics
- Present non-technical colleagues with understandable technical options

Course Outline

- How to use Analogies Effectively
- Limit Your Message to "Need-to-Know" Information
- Display Your Thinking Visually
- Involve the Listeners
- Manage the Intimidation
- Structure Your Message Effectively

- Avoid Projecting Opinion as Fact
- Helping Non-Technical People Making Sound Technical Decisions

Lab exercises: The exercises for this course will provide the attendees with opportunities to create communication documents (emails, memos, presentations) in a manner that non-technical staff can comprehend. Short verbal presentations and/or conversations will also be role-played.

Conflict Management and Negotiation in the Business Environment

A Senior PM will need the ability to intervene in troubled projects, address unrealistic expectations, resolve disputes between the State and Vendors, and deal with conflicts that may span multiple State Agencies and organizations. This course should provide techniques for bringing people together to resolve conflicts and determine a path forward. It will also be important for the instructor to include instruction about how to recognize and understand contracts and conflicting priorities, political issues, and when to seek additional support from other experts.

Duration: 2 Days

Learning Objectives

Upon completion of this course, the attendees will be able to:
- Recognize how our own attitudes and actions impact others
- Find new and effective techniques for managing negative emotions in others and self
- Understand the function of communication through exploring its processes
- Apply assertive verbal skills for effective feedback strategies
- Apply critical listening skills
- Develop awareness of how effective non-verbal messages are communicated
- Describe the main sources of conflict
- Develop coping strategies for dealing with difficult people and difficult situations
- Identify those times when you have the right to walk away from a difficult situation
- Explain the appropriate techniques in inter-personal conflict management
- Describe the appropriate action plan and strategies to manage inter-group conflict
- Explain the attributes of an effective manager
- Prepare for negotiations
- Engage in negotiations
- Conclude negotiations
- Evaluate negotiations

Course Outline
- What is conflict?
- The main sources of conflict
- Different types of conflicts
- Key questions which clarify conflict causes
- Conflict stages
- Listening continuum
- Attitudes towards conflict
- The Dual Concern Model
- Understanding where my attitude to conflict is rooted
- Tools for improved communication
- What gives people power
- Problem solving
- Management techniques in industrial conflicts
- Tools for conflict analysis

- Inter-group conflict
- Stereotypes and prejudices
- Strategies for resolving inter-group conflict
- Negotiations
- The importance of negotiations and agreements
- Building the relationship
- Assertiveness
- Understanding the Negotiations process map
- Informing people about the negotiations process
- Useful questions for setting up a negotiations process
- Persuading through discussion
- Building trust
- Qualities of good negotiators
- Facilitating the negotiation process
- A comparison of negotiation styles
- Negotiations strategy
- Understanding different negotiation styles
- Negotiation mistakes to avoid
- Key soft skills in the negotiations process
- The mediation process
- The function of the mediator
- The goals of mediation
- Facilitation
- Conciliation
- Managing emotions
- Arbitration
- Designing a strong agreement

Advanced Team Dynamics

The focus of this course is to engage advanced personnel in techniques for working through difficulties and challenges of dysfunctional teams. It will be interactive, multi-disciplinary, and will address ways to overcome common problems such as poor performance, differing opinions, lack of communication, and lack of leadership. A dual purpose of making this course multi-disciplinary is to cross-train and increase understanding among various disciplines in State IT while providing the opportunity and facilitation to improve communication skills and abilities.

Duration: One Day

Learning Objectives

Upon completion of this course, attendees will be able to:

- Define and understand the sources of conflict
- Resolve conflicts using different strategies
- Identify their own personal conflict resolution style
- Understand the different bases of power and how to change them
- Apply influence and explore their relationships with others
- Provide conflict management training for others

Course Outline

- Definitions of Conflict
    - o Misconceptions about Conflict
    - o Sources of Conflict
    - o Positive and Negative Factors of Conflict
    - o Business Management and Conflict Resolution
- Conflict Mode Instrument

- o Scoring and Interpretations
- o Ways of Coping with Conflict
- o Assumptions and Outcome of Conflict
- Influencing Others in a Problem-Solving Context
    - o Working Effectively with Team Members
    - o Managing Your Emotions, Information and Problems
    - o Tips For Effective Day to Day Conflicts
    - o Resolving Conflict before It Gets Out of Hand
    - o Managing Conflicts with Superiors and Subordinates
- Importance of Team Work
    - o Dealing with Dysfunctional Team Roles
    - o Managing Conflict in Teams
- Influence Inventory (Power Bases)
    - o Definitions of Influence and the Bases of Power
    - o Changing the Bases of Power
    - o Leadership Training for Influence and Power
    - o Training Development for Influence

Lab Exercises: The lab for this course will be interactive role-playing through situations presented in the exercises. Some of the situations included will be: slacking team member, conflict resolution, lack of communication, and lack of leadership.

PRACTICAL REASONING COURSE DESCRIPTIONS

Courses in this area of competency will expand upon the professional's ability to actively and skillfully conceptualize, apply, analyze, synthesize, and/or evaluate information gathered and to use these skills to create more effective, efficient, and appropriate deliverables; solve problems, and make decisions as necessary within their job classification.

Resources to Improve Practical Reasoning

This set of training modules will give State IT personnel access to ideas, tools, and methods to improve their ability to think critically, understand and solve problems more effectively, and make informed decisions. Many training vendors have extensive curriculum related to these topics so these modules are likely to come from a vendors existing course catalog. The lists below provide an example of the kinds of modules the State would like to have available for their personnel. The actual offering from a training vendor may be more extensive. These can be instructor-led, computer based, or lab courses.

Duration: Each module in a series will be a stand along module and should be no more than 1 hour.

Audience: These modules will be applicable to any IT personnel including those who are technically focused and those who are business focused. These modules will be available to anyone as electives that they can select on their own or as directed by their managers as part of their Individual Development Plan.

Critical Thinking Series

Learning Objectives

Upon completion of one or more modules, participants will be able to:

- Recognize how to think more logically,
- Identify ways to apply critical thinking methods to improve their own skills
- Identify ways to use critical thinking skills in their work

Course Outline

Topics for Modules will include but are not limited to:

- Organizing information – learning ways to organize information in a variety of ways
- Exploring ways to identify many possible options or alternatives to how information can be organized
- Methods for evaluating alternatives
- Evaluating data and finding the data most relevant to the task
- Drawing conclusions from information
- Identify what has not been stated when analyzing instructions, or steps in a process
- Developing originality and creative thinking
- Applying critical thinking techniques in the workplace
- Self-awareness – identifying strengths, and weaknesses, improving your own abilities.

Problem Solving Series

Learning Objectives

Upon completion of one or more modules, participants will be able to:

- Have an increased awareness of problem solving methods, tools and approaches
- Identify cause and effect processes and tools that can aid in problem solving
- Identify ways to use problem solving techniques to improve their work

Course Outline

Topics for Modules will include but are not limited to:

- Basic steps to solve a problem
- Introduction to Cause and Effect Processes and Tools
  - Fishbone Diagram
  - Flowcharting
  - Storyboarding
- Finding and choosing tools and techniques to improve problem analysis
- Identifying and overcoming barriers to problem resolution
- Techniques for identifying and evaluating possible solutions
- Planning to implement a solution including ways to identify possible undesired outcomes and plan for contingencies
- Implementing a solution
- Evaluating the solution

Decision Making Series

Learning Objectives

Upon completion of one or more modules, participants will be able to:

- Recognize how to approach decision making more deliberately
- Recognize that there are tools to help with different types of decision making
- Identify ways to improve their own decision making in the workplace
- Document the decision and the supporting information for project audits and lessons learned

Course Outline

Topics for Modules will include but are not limited to:

- Approaches to decision making
- Finding and choosing tools and techniques to structure and support decision making (for example, Financial decision tools, making decisions with limited information)
- Identifying and dealing with your own biases
- Documenting the decision

Developing Business Acumen – Intermediate

This course is a combination of new material and a more in-depth look at some key topics. Participants in this course should have had an introductory course in project management or project management experience.

Lesson Objectives

Upon completion of this course, the attendees will be able to:
- Utilize PM knowledge to carry out tasks related to Integration, Scope, Time, and Quality
- Create a project charter and status report
- Understand the roles and responsibilities of a project
- Estimate durations for project activities

- Understand Quality Management techniques
- Report actuals against schedule
- Monitor project deliverables against project scope
- Communicate effectively with stakeholders
- Understand quality control, costs, and other techniques for maximizing the effective deployment of solution

Course Outline
- Project Management Deliverables - Understand the basic set of crucial project management deliverables. Improve your project management success with proven tools.
- Stakeholder Communications - How to plan for communications, both within the team and externally. Learn the different types of communications media and when and how to apply each one.
- Defining and Managing Quality - How to build quality into the project. Understand the difference between quality and grade: why quality has nothing to do with price, exclusiveness, or superiority. Quality Management Techniques will be covered.
- Requirements vs. Expectations - How to uncover and manage the customer's expectations. Learn how to determine what hidden requirements the customer has and how to shape them.
- Project Politics - When you are faced with a conflict, how can you tell if it is motivated by politics—seeking to gain by attacking others—or sociology—the legitimate differences of opinion held by knowledgeable people? Learn how to distinguish politics from sociology, how to protect yourself and your team from politics, and how to use sociology to advance your project.
- Deliverable Review and Approval - How to ensure that the customer properly reviews and approves project deliverables. Define a clear and limited process that will avoid endless repetitions of reviews and delayed approvals.
- Managing the Customer Team - Sometimes the difference between success and failure is the performance of the customer's team, but how can you deal with a team that is poorly managed? In this session, you will learn techniques to manage the customer's team, how to use the customer's team to promote the advantages of the project, and how to ensure that the project is on the right track.
- Managing Vendors - How to managing vendors to ensure timely delivery. Learn how to ensure that vendors are on schedule and how to identify the risks that vendors entail.
- Advanced Scope Management - This topic builds upon the scope management section of the basic course. You will learn advanced techniques for defining and managing the project's scope, how to spot the signs of scope change, how to prepare for it before it happens, and how to use scope changes to lay the groundwork for future projects.
- Project Documentation - How to ensure quality project documentation. Learn what material should be in a handoff to the project manager or to a support group. Understand the use of project archives. Learn how to keep crucial information quickly available.
- The Project Charter - The Project Charter should initiate a project. Here, you will learn how to prepare a Project Charter that presents a strong justification for proceeding with the project, how to make intangible benefits tangible, the role of the Project Charter in initiating a project, and how to use the Project Charter to guide the project's progress.
- Advanced Risk Management - This topic builds upon the risk management section of the basic course. In this session, you will learn advanced techniques for identifying risks before they become problems, how to identify and track risk symptoms, and the role of positive risks and how to take advantage of them.
- Realizing Project Benefits - Every project is conducted for a reason, but most projects end when the product is handed over to the customer. Learn why project managers need to be concerned with benefits, how to use benefits to make project decisions, how to improve the chances that the benefits will be realized, and how to ensure that your organization receives value from its project investments.
- Roles and Responsibilities – Project roles and responsibilities are discussed in more detail.
- Estimating – How to accurately estimate the time required to complete project tasks and how to report actual time against scheduled time.
- Effective Deployment – What is involved in planning for an effective deployment? Schedule, quality and costs related to development and deployment will be discussed.

Judgment, Decision, and Analysis

PMs at this senior level are required to make decisions and recommendations for actions that have significant impact on the project and the services provided by the State to the people of the State. This course will provide instruction on how to look at all the factors of cost, risk, benefits, customer objectives and other relevant factors, evaluate the information and make decisions about how to proceed. The emphasis will be on developing the thinking and analysis skills and abilities by teaching proven techniques and approaches.

The course will also emphasize risk identification, assessment, and mitigation strategies including ways to recognize and benefit from positive risk.

Duration: One Day

Learning Objectives

Upon completion of this course, the attendees will be able to:
- Make good decisions based upon relevant information
- Identify risks and successfully assess and mitigate them

Course Outline

- The Problems with Instinctive Decision Making
    - Factors which influence our natural decision-making
    - Quality problems with intuitive decision-making processes
- What is Reasoned Decision Making?
    - What are the barriers to reasoning well?
    - What are the qualities of reasoned decision processes?
- The Natural Barriers to Sound Reasoning
    - Emotional state
    - Mental shortcuts
    - Patterning
    - Bias and assumptions
    - Mind set
    - Need for explanations
    - Narrow focus
    - Stubbornness
- An Introduction to Critical Thinking
    - Are you a critical thinker?
    - What is critical thinking?
    - Why do we need critical thinking?
    - Developing as a critical thinker
    - Second-order thinking
- The Structure of Reasoning
    - Purpose
    - Point of view
    - Assumptions
    - Implications and consequences
    - Data, facts, and experience
    - Inferences
    - Concepts
    - Questions
- Standards of Critical Thinking
    - Clarity
    - Relevance

- o Logic
- o Accuracy
- o Depth
- o Significance
- o Precision
- o Breadth
- o Fairness
- o Ethics of critical thinkers
- Problem Analysis and Decision Making - Best Practices
  - o Slow down
  - o Think critically
  - o Impose creativity
  - o Clarify purpose
  - o Focus on major factors
  - o Actively focus in and out
  - o Structure the selection process
  - o Take a step back-does the decision make sense?
- Imposing Creativity on the Choice of Solutions
  - o Slow down!
  - o Suspend judgment
  - o Imagine courageously
  - o Think beyond conventional wisdom
  - o Question everything and everyone
  - o Imagine backwards from the ideal
  - o Restate the problem
  - o Dismantle the problem
- Analytical Decision-Making Techniques
  - o Sequencing
  - o Sorting
  - o Time lines
  - o Matrixes
  - o Decision trees
  - o Ranking
  - o Probability
- Risk planning
  - o Identify the risks
  - o Categorize the risks
- Risk responses
  - o Avoidance
  - o Mitigation
  - o Transference
  - o Acceptance
- Tracking risks
  - o Sensitizing the team
  - o Diagnosing risk symptoms
  - o Updating the risk analysis

Collaborative Troubleshooting/Problem Solving/Decision Making

Maximizing the benefits of team collective reasoning when there is a technical dilemma is a core skill for technical leadership. People tend to fall into 'hero' mode – taking on the challenge single handedly when the situation really warrants a multi-disciplinary look, or 'hiding' mode – hoping someone else gets assigned to fix the problem or solve the dilemma. People are either afraid of blame or looking at the problem as an opportunity to shine. So how does a leader determine if the problem needs individual or team investigation? When does someone need help and how do

you ensure they get the right expertise to find the problem? How does a leader establish a synergy of team effort to tackle difficult problem, focusing the energy on the best possible solution? Techniques and approaches to collaboration will be explored, practiced through role-play and discussion of scenarios.

Duration: 1 day

Learning Objectives

Upon completion of this course, attendees will be able to:

- Foster collaborative thinking and problem solving
- Establish an environment conducive to collaboration
- Effectively manage discussion in a group
- Identify barriers to effective teamwork

Course Outline

- Learn about the benefits of collaborative thinking and problem solving
- Useful group collaboration skills
    - Brainstorming
    - Concept mapping
- Identify ways to bring a team together to collaborate
    - Establishing the proper environment within the space and between participants
    - Communicating the time allotted, scope of effort, methods to be used
- Demonstrate understanding of ways to encourage participation
    - Encouraging idea sharing, open discussion
    - Keeping the group on topic
- Identify barriers to collaboration and ways to overcome these barriers
    - Overcoming 'group think'
    - Identifying and addressing team biases
- Maximizing the efforts of established teams
    - Getting to know each other's strengths and how to encourage those strengths

Developing Business Acumen - Senior

A Senior PM must become very knowledgeable about the business of the organization or Agency he or she is supporting. Acquiring business knowledge, awareness, understanding, and acumen is a something a PM will begin early and will never stop. No organization is static, and the things that influence the business are continuously changing. A PM must learn to learn and stay current about the business objectives, products and services, constituents, leadership, operations, challenges, and opportunities, as well as the environmental factors that directly impact the organization such as legislation, federal regulations, threats to safety and security, financial resources, and many other things. This course is designed to help PMs learn to learn about the organization and business they support. The course will provide an understanding for why this is a life skill, how to find information, how to stay current, how to monitor for personal bias vs. an open minded perspective.

Duration: 2 Days

Lesson Objectives

Upon completion of this course, the attendees will be able to:
- Find needed information
- Stay current on state government and agency policies and protocols
- Create a realistic Work Breakdown Structure (WBS)
- Calculate project risk
- Communicate with leadership, stakeholders, and vendors

- Estimate cost and schedule
- Control scope creep
- Produce advanced reporting for the project
- Improve project quality through the use of advanced quality management techniques
- Effectively plan, procure, contract, and manage a vendor (including deliverables, budget, schedule and goals)
- Successfully lead a complex project
- Providing training, supervision, and mentoring to less advanced PMs.

Course Outline

- Identifying Resources for Continual Learning
- Maintaining Current Knowledge of State Government
  - Legislative Issues
  - Agency Policies
  - Agency Operations
- Analyzing Change and Its Effect on Processes, Practices, and Projects
- Creating a Realistic Work Breakdown Structure (WBS)
  - Critical Path
  - Critical Chain Scheduling
- Analyzing and Calculating Risk
- Principles and Processes of Communication with Leadership
- Principles and Processes of Communication with Stakeholders
- Integration
- Scope and Scope Creep
- Estimating Cost and Schedule
- Collect, Organize, and Distribute Project Status
- Advanced Reporting of actuals against schedule
- Advanced Quality Management techniques
- Vendor Management
  - Planning for Vendor Management
  - Procuring a Vendor
  - Contracting with a Vendor
  - Ensuring the project has the right type of contract (T&M, Fixed Price, LOE)
  - Acceptance criteria
  - Defined Deliverables for the Project
  - Goals
  - Budget
  - Schedule
  - Establishing a Relationship with the Vendor that promotes success and well executed tasks, and opens the communication channels so problems and unexpected issues can be managed together
- Taking the Lead PM Role
  - Taking responsibility for a complex project
  - Working in coordination with other PMs
- Providing Training, Supervision, and Mentoring to less Advanced PMs.

Developing Business Acumen - Director

Project Directors are working now at a level of complexity that demands a keenness and quickness in understanding and dealing with a business situation. One of the reasons IT projects fail to meet the mark is that they take time to produce. The IT world is in a constant state of change. The time from initial project planning to delivery can easily be over a year. Meanwhile, Agencies priorities will have shifted, new regulations come into play, and financial implications change. Project Directors need to know how to stay current, how to look ahead to the implications of changes, and how to make tough decisions that impact the Project, the State, and the People. This course will help Project Directors understand techniques and

approaches for developing the thinking and decision-making skills and abilities necessary to successfully navigate and lead in this executive level environment.

Duration: 2 Days

Lesson Objectives

Upon completion of this course, the attendees will be able to:
- Find needed information
- Stay current on state government and agency policies and protocols that will affect a project
- Analyze change within the organization that will affect a project
- Effectively incorporate change management into a project as required
- Provide mentoring to less advanced PMs.

Course Outline

- Identifying Resources for Advanced Continual Learning
- Maintaining Current Knowledge of State Government and Governance
    - Recognizing Organizational Culture Changes
    - Legislative Issues
    - Agency Policies
    - Agency Operations
- Analyzing Change and Its Effect on Processes, Practices, and Projects
    - Effect on Schedule
    - Effect on Budget
    - Effect on Scope
    - Effect on Requirements
- Change Management
- Provide Mentoring to less Advanced PMs.

ADMINISTRATION / MANAGEMENT / LEADERSHIP COURSE DESCRIPTIONS

Note: The instructors will be very skilled at establishing a safe, collaborative environment themselves so that the role-play and exercises are non-threatening and successful. In all courses such as this one the instructors must recognize that they are teaching technical persons these 'soft' skills that do not always come as naturally as technical skills. Participants are likely to be reluctant and maybe intimidated to participate in role-play and interactive activities.

Project Management Basics

This course is designed to give the Lead Developer some management skills that will help structure and improve their ability to manage their tasks. Basic Project Management phases and skills will be addressed. The course will integrate process, communication, leadership, problem-solving and decision-making skills to ensure there is an awareness of the inter-disciplinary aspects of leading a project. The course will also refer to TN IT Governance and the Tennessee Business Solutions Methodology and help Leads understand how their work integrates with the bigger picture of the full project scope.

Duration: One Day

Learning Objectives

Upon completion of this course, attendees will be able to:

- Explain the importance of clearly defining a project, identifying sponsors, and generating buy-in.
- Identify barriers to running successful projects.
- Apply techniques for dealing with scope creep and changing priorities.
- Demonstrate how to ask effective questions to identify what's really important.
- Effectively apply techniques for running productive project meetings.
- Develop an action plan to address current project shortcomings.

Course Outline

- Defining a Project
    - Putting Together the Project Team
    - Asking the Right Questions
    - Identifying Stakeholders
    - Identifying Importance and Priority
- Developing a Schedule
    - Identifying Barriers
    - Milestones
    - Key Tasks and Dependencies
    - Determining Resource Requirements
    - Tracking with Gantt, PERT
- Managing the Expected and the Unexpected
    - Identify risk
    - Dealing with Expanding Requirements and Changing Priorities
    - Requirements Documentation
    - Building an Issues List
    - Writing Status Reports
    - Creating an Action Plan to Address Issues
- Coordinating a Project Team
    - Techniques for running Project Meetings
    - Assigning Responsibility
    - Following up with Team Members
- Maintaining Relationships
    - Lab exercise in solving issues related to communication problems

- Project Completion
  - Project Debriefing
  - Documenting issues for future projects

Lab Exercise: Participants shall take a small "project" and discuss forming the project team, developing the schedule, identifying risks, dependencies and dominant communication channels.

Team Building

This leadership course will be an invaluable course for personnel who are taking on a leadership role on their team. The course will provide new leaders with the core knowledge, skills, and abilities to provide direction, encourage participation, establish a 'safe' environment for sharing ideas, respect, and valuing the contributions of everyone. The course will include instruction as well as opportunity for discussion, role-play, and review of effective and ineffective leadership styles. A major objective will be to train leaders to 'lead by walking around' – making face-to-face connections, or at least talking on the phone when team members are remote, understanding that important information about how things are really progressing can only be gained by listening to verbal and non-verbal communications, and by establishing relationships.

Duration: One Day

Learning Objectives

Upon completion of this course, attendees will be able to:

- Apply different communication strategies to maximize motivation
- Develop and maintain high levels of trust with team members
- Enhance individual and team motivation on a consistent basis
- Lead by example with competence and trust based credibility
- Recognize personal management style and make changes as necessary to improve team management
- Eradicate issues relating to inferior quality and save money
- Deliver higher-quality outputs more quickly and efficiently
- Deliver effective praise and reprimand sessions to reinforce standards and performance
- Create a working environment that promotes high levels of collaboration and commitment
- Set and agree on challenging performance targets with team members – and achieve them
- Effectively resolve poor performance issues within the team
- Navigate change more effectively while maintaining team focus and motivation
- Create an effective action plan to maximize motivation and performance

Course Outline

- Communication
- Developing Trust
- Enhancing Motivation
- Leading by Example
- Dealing with Issues
- Improving Efficiency
- Praise and Reprimand Sessions
- Creating an Environment for Collaboration and Commitment
- Setting Performance Targets
- Resolving Poor Performance Issues
- Navigating Change
- Creating an Action Plan

Lab Exercises: This is a highly interactive class with lab exercises that will include the opportunity for discussion, role-play, and review of effective and ineffective leadership styles.

Learning to Teach and Mentor Others

In the past, coaching was something that managers were involved in. Today, individuals from all over the world have seen the benefits of coaching and mentoring. It is no longer just available to the few but can benefit many. In this course, we start by exploring the most basic definition of coaching - the formal or informal process of supporting an individual or group to achieve specified goals, objectives, or results. The course then continues to examine the area of mentoring. The course will also explore how the achievement of goals is increased by using a wide range of approaches or techniques in coaching/mentoring.

Duration: One Day

Learning Objectives

Upon completion of this course, the attendees will be able to:
- Explain the benefits of coaching and mentoring
- Effectively coach a co-worker
- Effectively mentor a co-worker

Course Outline
- Who are the beneficiaries of Coaching and Mentoring?
  - The Coach/Mentor
  - The Employee
  - The Department
  - The Organization
- Coaching
  - Definition
  - What is Coaching?
  - Characteristics of an Effective Coach
  - Attitudes For Effective Coaching
  - Types of Coaching
  - Coaching For Effective Actions
- Designing a Coaching Program
  - The Coaching Concept
- Skills For Effective Coaching
  - Communication
  - Providing Feedback
  - Giving Instruction
- Mentoring
  - Definition
  - Differences between Coaching & Mentoring?
  - Informal Mentoring
  - Formal Mentoring
  - Characteristics of Great Mentors
  - Why Use Formal Mentoring
  - Mentoring and Business Objectives
- Piloting a Mentoring Program

Advanced Human Resources and Labor Relations Issues

The Senior PM is beginning to take on a more advanced level of management and may not only manage Projects but may be more involved in managing people and /or elements of State Agency operations. This course will give the PM advanced exposure to the principles and procedures for personnel recruitment, selection, training, compensation and benefits, labor relations and negotiation, and personnel information systems.

Duration: 2 Days

Learning Objectives

Upon completion of this course, the attendees will be able to:
- Effectively review prospective employees' resumes
- Effectively interview prospective employees
- Supervise junior project managers
- Develop job plans including S.M.A.R.T. goals
- Conduct performance evaluations
- Effectively perform labor relations
- Comply with State of TN Human Resources policies

Course Outline

- Finding Good Candidates
  - Screening Resumes
  - Pre and Post Interview Best Practices
  - Interviewing Skills
- Supervising Junior Project Managers
  - Communication
  - Feedback
  - Coaching
  - Mentoring
- Professional Development
  - Job Plans
    - S.M.A.R.T. Goals
  - Performance Evaluations
- Labor Relations
  - Conflict Resolution
  - Negotiation
- State of TN Human Resources Policies

Law and Government

This course designed for State of TN PMs will provide training about the State of TN laws, legal codes, court procedures, precedents, government regulations, executive orders, agency rules, and the democratic political process and why knowledge of how government works is relevant to the advancing PM.

Duration: One Day

Learning Objectives

Upon completion of this course, the attendees will be able to:
- Locate applicable state and federal laws
- Locate applicable court procedures and precedents
- Locate applicable state and federal government regulations
- Locate applicable executive orders
- Locate state agency policies, practices, and standards
- Understand the state of TN political process

Course Outline
- Locating Applicable State Laws in TN Code Annotated
- Locating Applicable Federal Laws
- Locating Applicable Court Procedures and Precedents
- Locating Applicable State and Federal Government Regulations
- Locating Applicable Executive Orders
- Locating Agency Policies, Practices, and Standards
- The State of Tennessee Political Process

Public Safety and Privacy

Maintaining public safety and ensuring protection of privacy are key missions for state governments. This course will give PMs the knowledge of State of TN relevant equipment, policies, procedures, and strategies to promote effective local, state, or national security operations for the protection of people, data, property, and institutions. In addition, the course will provide examples of how IT products and services can cause inadvertent breaches in public safety and protection of privacy and the techniques, methods, and tools IT professionals can use to prevent these breaches and/or mitigate the risks of a breach.

Duration: ½ Day

Learning Objectives

Upon completion of this course, the attendees will be able to:
- Understand the current state of TN and federal privacy policies and standards
- Understand the privacy considerations that need to be given to the development of IT applications
- Understand the security involved to maintain privacy within an IT application environment
- Identify potential risks in security and/or privacy in an IT project
- Mitigate the risk of security and/or privacy breaches in an IT project

Course Outline
- State of TN and Federal Privacy Policies
  - HIPPA
  - Personnel Information
- Privacy Considerations in IT Applications
- Security in IT Applications
- Identifying Potential Risks
- Mitigating Risk of Breach

Collaboration, Motivation, and Communication with Large Project Team

Leadership comes down to some basic skills and values including honesty, trust, integrity, respect, collaboration, communication, and vision. The curriculum path for PMs has been giving PMs the opportunity to develop and use these skills and abilities from the time they were Associate PMs. As PMs advance to manage the complexities of portfolios, conflicting priorities, and financial pressures, the challenges grow exponentially. Managers at this level are beginning to think more globally and are required to make assumptions and take calculated risks. Extreme challenges, politically charged circumstances and demands can make basic leadership abilities seem less useful. It is at this point that leaders need a reminder of how important the basics really are. This course will be a workshop for these advanced Project Directors, facilitated by experts in executive level state government and private sector management. The focus of the course will be to review successful and dysfunctional projects and project teams. Examples will be relevant to state government, reviewing lessons learned from other states and from within the State of Tennessee as applicable. These scenarios will be current and relevant to real challenges of State government. Private

Sector examples and scenarios will be explored as well; especially where private/public collaboration and coordination was successful.

Duration: ½ Day

Learning Objectives

Upon completion of this course, the attendees will be able to:
- Demonstrate leadership in large, complex multi-agency project management
- Effectively coordinate resources
- Initiate improved collaboration among team members in a large team
- Encourage improved motivation for team members in a large team
- Foster effective communication among team members in a large team

This is a lab workshop with no stated Course Outline. The workshop will consist of reviewing successful and dysfunctional projects and project teams and reviewing lessons learned. The facilitators will lead participants into advanced problem solving and decision making discussions surrounding the scenarios presented. Techniques to coordinate numerous resources will be covered. Methods to improve collaboration, motivation and communication among team members in a large team will be discussed.

Portfolio Management

This course deals with managing a portfolio of projects. While it is important for organizations to manage their projects using proven best practices in project management, it is becoming apparent that managing individual projects is not enough. Organizations need to:

- Deploy resources where they are most valuable
- Track and control the status of an entire portfolio of projects
- Understand the demands of supporting existing applications
- Establish project priorities based on criteria such as value, strategic direction, risk, cost, and other factors

All of this is the role of portfolio management, which can be further divided into project portfolio management (PPM) and application portfolio management (APM). PPM is concerned with initiating and executing projects, while APM is concerned with maintaining and enhancing existing applications.

Duration: 2 Days

Learning Objectives

Upon completion of this course, the attendees will be able to:

- Understand the demands of project and application portfolio management
- Develop an inventory of existing applications, projects, and new project demands
- Establishing priorities among projects and applications
- Allocate resources based on priority
- Track a portfolio of projects
- Adjust the portfolio based on changing business conditions

Course Outline

- Why portfolio management?
  - Projects as competitors vs. projects as contributors

- o Deploying scarce resources and staff
- o Understanding of project priorities
- o Filtering out of less valuable projects
- o Ensuring that projects contribute to the organization and its strategic direction
- Project portfolio management vs. application portfolio management
  - o Keeping the lights on vs. installing new ones
  - o The interface between existing applications and projects (when does an enhancement become a project?)
  - o When does an existing application become cumbersome and warrant being replaced?
- Developing a meaningful inventory
  - o What are our existing projects?
  - o What projects are in the pipeline?
  - o What applications need supporting and how much do they need?
  - o What resources—staff, equipment, floor space, money—do we need?
  - o What resources—staff, equipment, floor space, money—do we have?
- Establishing priorities among projects
  - o The role of the organization's strategic plan
  - o Determining value
  - o Size, duration, complexity, risk, and other considerations
  - o The political element: How do we convince the CFO that his project is of low priority?
- Establishing priorities among applications
  - o Not all applications are created equal
  - o Filtering bug fixes and enhancement requests
  - o Using severity levels to assign priorities
- Allocating people
  - o What kind of organization do you have? (strong matrix, weak matrix, non-matrix)
  - o How are people allocated? (Who's in charge?)
  - o How should people be allocated? (Who should be in charge?)
  - o Stability of assignments *vs.* flexibility to change them
  - o Retention strategies: How do we keep our best people?
- Tracking a portfolio of projects
  - o Consistent status gathering and reporting
  - o Green, yellow, and red light summaries
  - o Project dashboards – directing the portfolio
  - o Types of interventions: quick-fix, longer-term, housecleaning, cancellation
  - o The philosophy of continuous improvement
- Measuring a portfolio of applications
  - o What are the measures of applications support (and do we have them)?
  - o Benchmarking (how are we doing against other companies?)
  - o Feedback from applications support to applications development (let's get better so that we need less support)
  - o The philosophy of continuous improvement
- Feedback from changing business conditions
  - o Performance against the strategic plan
  - o Changing economic conditions – belt-tightening
  - o Changing economic conditions – expansion
  - o Re-evaluating the portfolio